Via Email and Electronic Comment Filing System

March 16, 2012

Sharon Gillett
Chief, Wireline Competition Bureau
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

Re: Rural Health Care Pilot Program, Docket No. 02-60
USAC Site Visit Reports on the FCC Rural Health Care Pilot Program

Dear Ms.Gillett:

Pursuant to a request from Federal Communications Commission (FCC) staff, the Universal Service Administrative Company (USAC) is providing summary reports on six federal Universal Service Rural Health Care (RHC) Pilot Program (Pilot Program or RHCPP) site visits conducted by USAC staff through February 29, 2012. The site visit summary reports for each project include general observations and demonstrated uses of the project's broadband network. The Pilot Program projects include: Geisinger Health System, Northeast Ohio Regional Health Information Organization (NEO RHIO), Heartland Unified Broadband Network (HUBNET), Palmetto State Providers Network (PSPN), Iowa Rural Health Telecommunications Program (IRHTP), and Pennsylvania Mountains Healthcare Resource Development.

Please contact me if you have questions concerning this information.

Sincerely,

/s/ Craig Davis
Vice President, Rural Health Care Division

Pilot Program Site Visit Summary
Geisinger Health System

The Geisinger Health System is both a participating provider and the lead entity. The site visit consisted of documentation review, telemedicine demonstrations, rural hospital visits and tour of Data Centers. Over 20 professionals including the Project Coordinator, Assistant Project Coordinator, physicians, nurses, CEO, CIOs, and IT managers were interviewed.

Rural health care providers (HCPs) participating in this site visit were Lewiston Hospital, Geisinger Health System and Evangelical Hospital.

Geisinger provides a broadband network covering 31 counties in central and northeastern Pennsylvania. Bandwidth speeds vary from 1.544 Mbps to 20 Mbps depending on the needs of the local HCP.

General Observations

Geisinger conducts telemedicine over the network for Tele-Trauma, Telestroke, Tele-Echo cardiology (for both adult and pediatric patients), Tele-EEG, Tele-ICU, Trauma CT Transfer, Tele-Psych, Tele-radiology, Tele-Maternal Fetal Monitoring and Tele-Pathology. Shortly, Geisinger will be implementing Tele-Rheumatology, Tele-Dermatology and Tele-Infectious Disease capabilities over the network. Geisinger uses electronic medical records (EMRs) throughout the system.

Geisinger owns and operates a health information exchange called Keystone Health Information Exchange (KeyHIE), which is a secure and robust electronic health information network serving over 53 hospitals and 9,000 physicians. Geisinger is collaborating with Intermountain Health, Kaiser Permanente, Group Health and the Mayo Clinic to develop a secure and interoperable health information exchange to share patient specific data through a Care Connectivity Consortium.

The medical professionals and others visited were all enthusiastic about the Pilot Program because the infrastructure and bandwidth provided allows them to better serve their patients.

Demonstrated Uses of the Network

Lewistown and Evangelical Hospitals participate in the eICU program. Clinical staff, patient and family acceptance and support of the eICU are very high. Benefits cited include keeping patients local, improving clinical outcomes, immediate second opinions,

and cost avoidance.[1] Lewistown Hospital staff mentioned that the eICU support allows them to practice in a rural setting knowing that specialized help is only seconds away. The eICU command center at Geisinger is staffed 24/7 with clinical professionals.

The Trauma CT transfer system allows for the immediate review and interpretation of CT scans for trauma victims by a specialist at Geisinger, thus allowing for clinical intervention that otherwise would not be available to the rural HCPs. If a patient needs to be transferred, his scans will have been reviewed ahead of time and a clinical course of treatment will have been determined before the patient's arrival. The "golden hour" for clinical intervention in trauma cases is significantly enhanced in this setting. A neurologist, noted that through telestroke, patients in outlying rural communities have access to neurological consults within five to ten minutes as opposed to hours.

During 2010, 356 pediatric Tele-Echo cardiology, 432 Tele-trauma, and 51 Telestroke cases occurred. In the first quarter of 2011 those metrics were 71, 58 and 11 respectively. Rural providers are able to provide more services benefiting the rural community, the patients and the patients' families. Telemedicine also has enhanced physician recruitment, retention, satisfaction and collegial support.

[1] Patients that are kept locally due to the eICU program may avoid helicopter transport, saving transport fees of more than $10,000 or a 2 to 3 hour ground transport.

Pilot Program Site Visit Summary
Northeast Ohio Regional Health Information Organization

The lead entity for the Northeast Ohio Regional Health Information Organization (NEO RHIO) is OneCommunity. The site visit consisted of documentation review, rural hospital visits, Network Operations Center (NOC) and Data Center tour, and equipment review. Over 10 professionals including the Project Coordinator, Assistant Project Coordinator, CIOs, and IT managers were interviewed.

NEO RHIO provides a broadband network through 20 counties of Northeast Ohio, with a standard service of 20 MB internet service and a 1 GB shared backbone. Bandwidth can be reallocated or increased as needed.

Rural HCPs participating in this site visit were HB Magruder Memorial Hospital, Firelands Regional Medical Center and Fisher Titus Medical Center.

General Observations

Medical professionals and others visited were enthusiastic about the Pilot Program as the new infrastructure and bandwidth provided allowed staff to better serve patients.

Demonstrated Uses of the Network

Tele-pathology and tele-radiology programs exist at the three rural facilities visited. Physician offices are interconnected through the network to allow for real time access to patients' hospital based, clinical information. The three rural hospitals have inter-operative EMRs that allow sharing of patient information across a wide geographic area. Inpatient telemedicine technology allows a patient's physician to access lab results and other data while consulting with the patient. In addition, all of the hospitals will be connecting to the statewide Health Information Exchange. Tumor registry for cancer care is supported over the network between Firelands Regional Medical Center and University Hospitals. Televideo patient education programs are provided as a part of discharge planning support.

Other Benefits of the OneCommunity Connection

OneCommunity has a core network of 117 hospitals on its own private fiber backbone. There are six transport nodes that interconnect the services supported by the Pilot Program to the core network allowing for greater connectivity and interoperability between and among HCPs.

Pilot Program Site Visit Summary
Heartland Unified Broadband Network

The lead entity for the Heartland Unified Broadband Network (HUBNet) is Avera Health in Sioux Falls, South Dakota. The site visit consisted of documentation review, telemedicine demonstrations, rural hospital visits, Data Center tour, and equipment review. Over 24 professionals including the Project Coordinator, Assistant Project Coordinator, physicians, nurses, CEOs, CIOs, and IT managers were interviewed.

Rural health care providers (HCPs) participating in this site visit were Avera McKennan Hospital, Avera Flandreau Medical Center, Horizon Health Care Howard Clinic, Horizon Health Care Data Center, Avera Queen of Peace, and Avera St. Benedict.

HUBNet provides a broadband network to 87 sites. The entire network consists of HCPs that receive funding from either the primary Rural Health Care Support Mechanism (Primary Program) or from the Pilot Program. A majority of the HCPs receive funding through the Pilot Program. Most connections are bonded T1's with a maximum speed of approximately 9.264 Mbps. The backbone for the network is 10 Gbps.

General Observations

HUBNet demonstrated telemedicine programs in E-ICU, E-Pharmacy, E-Emergency, E-Stroke and specialty consults using the tele-health connection. Post secondary education training programs are conducted using broadband for a wide variety of health care professionals. The medical professionals and other personnel visited were all enthusiastic about the Pilot Program because of the availability of increased bandwidth and ease of filing for funding as a consortium.

Demonstrated Uses of the Network

E-Emergency Telemedicine Program - An Avera Emergency Room (ER) nurse stated that prior to the upgraded bandwidth speeds provided to the rural sites through the Pilot Program, the audio and video components of the E-emergency telemedicine program were frequently not synchronized. This issue was more pronounced when more people were in the room. However, if one person spoke at a time, the connection was sufficient. There were times when the E-emergency telemedicine program would need to be turned off and rebooted in order for the connection to work properly. After the rural sites increased their bandwidth, there was a dramatic improvement in the ability to provide quality care to patients through the telemedicine program.

The management at Avera Flandreau reports that the increased bandwidth speed is a "God send" and that there would be a staff "mutiny" if the connection ever had to be disconnected. Avera Flandreau staff is heavily dependent on the connection. When a patient arrives in the ER and the staff determines that they need assistance from the urban

hospital, they push a button on the wall to initiate the connection. The urban nurse or doctor that answers is essentially another person in the room. Their presence allows the nurses at the physical location to focus on providing patient care and not worry about paperwork, which the urban site handles for them. Management also reports that having the connection to the E-emergency team has really helped them build relationships with their urban counterparts in Sioux Falls. The connection helps the urban site provide better care to patients when they have to be transported to the urban site for treatment because the patient's condition would already have been assessed remotely. The urban site is also able to make the arrangements in advance of a patient's arrival where that patient needs to see a specialist. In addition, Avera Flandreau staff is able to keep more patients local now. Prior to E-emergency functionality, almost all patients were transported to Sioux Falls. With E-emergency functionality, the urban center medical staff is able to determine injury severity, and where appropriate locally treat the patient at the rural site. Previously, the urban medical staff would have taken the precaution of having patients sent to the urban center.

Personnel at Avera St. Benedict report that, at first, doctors were opposed to the idea of E-emergency. However, when doctors were confronted with a difficult situation, they learned that having the urban doctor and nurses available was highly beneficial for them and the patient. Avera St. Benedict staff found that the urban doctors and nurses made the process easier by acting as a "third person" in the room who could provide both medical and administrative assistance. Doctors found that the E-emergency staff in Sioux Falls assists in coordinating patient transport, allowing the on-site doctor and nurses to focus entirely on patient care.

E-Pharmacy Tele-health Program - Pharmacists at Avera report that there are 27 sites participating in the E-pharmacy program. Avera provides the participating rural HCPs with 24/7 order review for patients in the outlying hospitals. This service is necessary because most rural HCPs do not have pharmacists on staff. Avera receives orders via "e-fax" into a software system that manages the workload for each pharmacist. The records are attached to EMRs, allowing the pharmacist to see all electronic records on that particular patient including doctors' orders. Avera staff then reviews and confirms/modifies/denies the request and returns that information electronically back to the site.

Avera reports that credentialing is a big issue. As their network grows into other states, particularly Minnesota, Iowa, North Dakota and Nebraska, the pharmacists at Avera must have a license to practice in each state and be credentialed at each of the hospitals receiving E-Pharmacy services. The need to be licensed and credentialed adds significant barriers to entry and delays E-Pharmacy implementation, and is a disincentive to creation of more E-telehealth services due to the administrative burden.

Avera Flandreau reports that the E-Pharmacy program has allowed them to already meet stage one of the meaningful use requirements from the federal Department of Health and

Human Services. They have also been able to meet new federal requirements regarding medication error rates as the medication dispensary system is electronic and only dispenses the medicine and dosage approved by the Avera pharmacist.

E-ICU Telemedicine Program - Avera E-ICU reports that there are 30 hospitals in 6 states participating in the E-ICU Telemedicine Program. ICU staff monitors Avera patients 20 hours each day. The period from eight to twelve each morning are not E-ICU monitored periods as a doctor at the rural hospital is in the location ICU. E-ICU monitors between 60 and 65 patients each day. Doctors are monitoring vitals, pharmacy orders, and test results. Monitoring and the interface for EMR are available through user-friendly software. Smart software is built in, using green (okay), yellow (warning) and red (alert) visuals throughout all aspects of patient monitoring. In addition to patient monitoring, doctors are looking for gaps in care and/or subtle trends for a single patient or group of patients that may reveal more urgent patient issues..

Using the E-ICU program has significantly dropped the average number of days a patient stays in the ICU thereby reducing health care expenses. E-ICU programs have reduced the patient transfers. Rural HCPs previously would transfer patients as a precaution. E-ICU allows the rural HCPs to keep the patient local, improving outcomes and decreasing stress for the patient and the patient's family.

Avera has found that the rural sites with specialists are not as quick to accept the E-ICU services. The more rural and isolated a provider, the more likely it is to accept the E-ICU services.

Avera has studied cost savings realized by the rural sites and estimates that in 30 months, 8 hospitals saved a total of $1.2M in patient transfer expenses alone. This savings does not include the additional expense of providing care at the urban site, the lost revenue for the rural site or the expenses incurred by the patient's family to travel to the urban location. Avera also reports that implementation of E-ICU was delayed significantly for North Dakota due to credentialing issues (see above discussion under E-Pharmacy).

Avera Flandreau reports that when the E-ICU program was in a fixed room with stationary equipment the service was not used much. The service, prior to the Pilot Program, did not have enough bandwidth for two-way video. Patients were uncomfortable when there was a voice from above talking to them. After implementation of the Pilot Program, the hospital now has a mobile unit that has a two-way video. Patients like it much more and accept the service readily. The nurses find that the doctors are more apt to use the program now and that there is a high level of provider collaboration with the doctors in Sioux Falls. Families really like the service also.

Horizon Health Care - Horizon Health Care (Horizon) is a consortium of rural, non-profit clinics that provide health care services in communities in the southeast portion of South Dakota. There are 12 medical clinics and 4 dental clinics that are connected to the

HUBNet network. Staff reports general satisfaction with the telehealth connection but notes that the speed could be better. It is noted that some Horizon sites have only 1.5 Mbps connections while other Horizon sites have 3.0 Mbps. Horizon would like for all clinic locations to have a minimum bandwidth speed of 5.0 Mbps so that the bandwidth can be used for multiple simultaneous connections. At the moment, the connection can only provide one video session at a time. Horizon reports that they generally get requests to have two video sessions at the same time.

Horizon reports that fragmentation and delay in video/audio synchronization is a significant problem, although with recent improvements in telemedicine carts this has improved. Patients really like the telehealth service, although older patients have a hard time since there are usually video/audio issues. Prior to the HUBNet connection, Horizon had on average 10 telehealth sessions per week. They now have 30 sessions per week, due solely to the increase in their bandwidth. The clinics rely on the bandwidth speed for monthly nurse meetings, OSHA meetings, and EMR implementation coordination meetings. Doctors and nurses also use the connection for continuing education. Staff indicated that the increased bandwidth connection has become indispensible.

Other Benefits of the Connection

Staff at the Avera Flandreau site reports that increased bandwidth speeds is the single best process change they have done. Staff has instant access to specialized care. Nurses are on the front line in the overnight hours and now feel that they can provide immediate care, regardless of the situation, through the support of the E-telehealth programs available. Patients and families state that they feel like they get comparable care in the local hospital compared with care received in Sioux Falls.

Avera Queen of Peace reports that the tele-consult visits are so popular within the community that the patients are now the ones asking for tele-consults. Data and imaging transfer capabilities via telemedicine are as good as in person access. Telemedicine adoption has resulted in reduced travel time and cost for patients, families, and professionals, which contributes to improved outcomes.

All rural providers report that they are able to provide more services locally which benefit the rural community, the patients and the patients' families. Telemedicine also has enhanced physician satisfaction and collegial support.

Pilot Program Site Visit Summary
Palmetto State Providers Network

The lead entity for Palmetto State Providers Network (PSPN) is the Medical University of South Carolina (MUSC). The site visit consisted of documentation review, telemedicine demonstrations, rural hospital visits, Network Operations Center (NOC) and Data Center tour, and equipment review. Over 24 professionals including the Project Coordinator, Assistant Project Coordinator, physicians, nurses, CEOs, CIOs, and IT managers were interviewed.

Rural HCPs participating in this site visit were Barnwell County Hospital, Kershaw County Medical Center, and the Regional Medical Center of Orangeburg/Calhoun Counties.

PSPN provides a broadband network through all 46 counties of South Carolina with a standard service of 10MB (5MB Symmetrical Commodity Internet, 5MB private broadband) and a 1GB shared backbone. The network also has an annual subscription to Internet2. Bandwidth can be reallocated or increased as needed.

General Observations

The PSPN participating HCPs conduct telemedicine programs in psychiatry, stroke, and OB/GYN which were demonstrated during the site visit. A tele-pathology program also exists. Post secondary education training programs are conducted for a wide variety of health care professionals. The medical professionals and other personnel visited were all enthusiastic about the Pilot Program as the new infrastructure and bandwidth provided allowed staff to better serve patients.

Demonstrated Uses of the Network

Tele-Psychiatry Telemedicine Program (TTP) - There are 22 hospitals that use the Tele-Psychiatry Telemedicine Program. PSPN reports that from March, 2009 through June, 2011, there were 7,018 tele-psychiatry consultations. Of those 6,630 (94%) were conducted using the PSPN broadband connections. All four metropolitan hospitals serving South Carolina have access to all patient psychiatry records via EMRs over the PSPN. The ability to access EMR's has greatly enhanced the urban centers' ability to provide treatment.

Prior to the adoption and implementation of the TTP , rural hospitals may have waited days for a psychiatric consultation. While waiting , the patient was held in the Emergency Department at the rural hospital, resulting in resources being dedicated to this patient and the loss of a bed for other patients. After implementation of the TTP, consultations are generally available at any time with minimal wait. The emergency department head nurse at Barnwell County Hospital noted that the wait time for a

psychiatric consultation may have been several weeks prior to implementation of the TTP. Use of the TTP has reduced the cost of providing Emergency Department psychiatry patient treatment from $2,500 per patient, per day to $400.00 per patient, per day.

MUSC has an agreement with New Hope, an inpatient residential facility treating youth (ages 12-21 years). Previously the in-house psychiatrist would visit with each patient once a month for a 20 minute session. After the in-house psychiatrist left New Hope's employ, the facility entered into a telemedicine contract with MUSC. MUSC psychiatrists now visit via telemedicine with each patient once a week. The psychiatrists are also available at any time for emergencies.

Tele-OB/GYN Telemedicine Program - This program was initially implemented prior to the PSPN broadband connections. Initially, physicians attempted this telemedicine program using a standard asynchronous T1 connection (1.544 Mbps downstream and 750 Kbs upstream). Only video images could be transmitted over this connection. The physician and patient had to use a regular POTS line for voice. Image latency was profound even when the connection was dedicated exclusively for video. Bifurcating the telemedicine experience between the T1 and the POTS connection also introduced latency issues with the video and voice synchronization. The impact of the sub-optimal technology was slow adoption by physicians and patients.

After the PSPN broadband connection was installed using the RHCPP, this telemedicine program has been widely accepted and implemented. Video and voice is transmitted over a symmetrical 2Mb dedicated connection. When accessing EMR, the connection burst to 4Mbps. A MUSC physician indicated that OB/GYN services for high risk pregnancies in rural areas has dramatically improved, both in number of expectant mothers receiving services and clinical outcomes. Patient visits have increased from 100 per month to 400 per month. Expectant mothers are now able to receive care via telemedicine from fetal medical specialists, genetic counselors, dietitians and other specialists. These health care providers are able to provide service through the PSPN connection from anywhere in the country. Due to the improved technology, acceptance by physicians and patients has greatly improved.

One participating physician told USAC that prior to adoption of Tele-OB/GYN service in Florence, South Carolina, expectant mothers would have to travel 168 miles to see a doctor. Historically, a physician would have to drive 6 hours a day and was only able to see each patient for 3 minutes in order to serve the high-risk population in Florence. Through telemedicine this physician is now able to utilize the entire working day to see patients, spending on average 30 minutes with each patient. MUSC reports a correlation in the patient visit to no-show rate that is directly proportional to the price of gasoline and the distance to see a physician.

Continuing Education - From January, 2011 to July, 2011, 25 continuing education courses were provided to 457 health care providers. Physician Assistant students on rotation throughout the PSPN sites were trained remotely during July and August, 2011.

Other Benefits of the Connection

Other benefits of the PSPN connection reported by users during the USAC site visit include:

- Extremely high provider and patient acceptance for all telemedicine programs.
- Shorter waiting times at rural hospitals for patients in need of specialized medical services (hours rather than days). Medical treatment and quality of service has improved with access to the PSPN.
- Improved data and imaging transfer capabilities via telemedicine comparable to in person access.
- Reduced travel time and cost for patients, families, and professionals contributing to improved outcomes due to telemedicine adoption.
- Provision of more services locally by rural HCPs, which benefit the rural community, the patients, and the patients' families.
- Enhancement of physician satisfaction and collegial support due to telemedicine applications provided over the broadband network.

Demonstrated Telemedicine Using Standard T1 Connection

REACH Grant Tele-Stroke Telemedicine Program - During the site visit, USAC had an opportunity to speak with the neurologist in charge of the tele-stroke program at MUSC. A REACH grant pays for the connection for this tele-health program. The physician reported to USAC that the grant requires that the consultations be performed over a standard T1 connection.

The REACH grant allows MUSC to provide Tele-Stroke consults to patients in rural hospitals. This telemedicine program allows MUSC specialists to deliver urgent, live consultations to rural emergency department patients who suspect they have had a stroke. Four Tele-Stroke consultations are being provided per day to emergency departments in the network.

In order to perform the consult over a standard T1 connection the video and audio must be bifurcated, with the audio using a POTS connection. The neurologist in charge of the Tele-Stroke program at MUSC performed a live consultation during the site visit. USAC observed noticeable delay in the audio and video as well as latency in the physician end of the connection. Further, USAC observed that consults over the T1 connection were acceptable for those participating, but the physicians, nurses and IT professionals involved all note that the connection is poor and would rather use the PSPN connection in

lieu of the dedicated T1 because of higher bandwidth speeds which would eliminate the latency and multi-use restrictions.

Pilot Program Site Visit Summary
Iowa Rural Health Telecommunication Program

The lead entity for the Iowa Rural Health Telecommunications Program (IRHTP) is the Mercy Health System in Des Moines, Iowa. The site visit consisted of documentation review, telemedicine demonstrations, rural hospital visits, Network Operations Center (NOC) and Data Center tour, and equipment review. Over 24 professionals including the Project Coordinator, Assistant Project Coordinator, physicians, nurses, CEOs, CIOs, and IT managers were interviewed.

Rural Health Care Providers (HCPs) participating in this site visit were Mercy Medical Center, Dallas County Hospital, Jefferson County Hospital, and Henry County Health Center.

IRHTP provides a broadband network to more than 80 HCPs throughout Iowa. The network consists of HCP owned last mile connections to a local internet access point. Bandwidth can be reallocated or increased as needed. Bandwidth speeds vary from 30MB to 60MB, depending on the needs of the local HCP.

General Observations

Telemedicine is conducted over the network primarily through the use of Radiology services, pharmacy review, and EMR applications. Future plans include adding tele-psychiatry for consult services and a tele-burn pilot program. Post secondary education training programs are conducted for a wide variety of health care professionals over the network also.

The medical professionals and others visited were all enthusiastic about the Pilot Program as the infrastructure and bandwidth being provided allows them to better serve their patients.

Demonstrated Uses of the Network

Dallas County implemented a software program called ChartLink allowing remote access to patient charts. Doctors are able to place orders for their patients electronically using this system. Dallas County plans to soon implement a virtual chart that patients will be able to access.

Jefferson County had Internet VPN connections and residential grade broadband, from multiple service providers, prior to the IRHTP connection. Tele-radiology services would take a minimum of 30-40 minutes to send images for reading. The time to send images caused significant delay in providing patient services.

Jefferson County reports that they now have a 30 MB service through IRHTP. Through this high-speed broadband connection, broadband speed for radiology service in the rural county is no different than if it were in an urban area. Images are sent to the urban area within 60 seconds. Images are high-resolution. Prior to the IRHTP connection, the hospital had a high number of misdiagnoses, and patient wait times were 3 to 4 hours in length. After the IRHTP connection, the number of misdiagnoses is down dramatically and the patient wait is now only 30 minutes.

Jefferson County reports that they are able to keep more patients in their local hospital. Because of the quick send and read of the radiology scans, the hospital no longer sends patients to the urban area as frequently. In most cases they are able to keep more patients locally for less complicated cases due to the IRHTP connection.

Henry County Health Center reports that they primarily use the broadband connection for radiology services. There is no radiologist on staff so all scans are read by an urban hospital or KnightHawk (a radiology service provider). Henry County also uses a software program called PowerScrib for voice recognition dictation. The phone system is now VoIP, using the IRHTP network. Henry County also uses the broadband connection for all of its EMRs. The Henry County Hospital was one of the first HCPs in the country to reach stage one the federal Department of Health and Human Services' Meaningful Use requirements. Henry County also indicates that in the future they would like to conduct tele-psychiatry over the connection.

All rural sites visited report that the IRHTP connection and the telemedicine services provided over this connection have enhanced physician satisfaction and collegial support.

Pilot Program Site Visit Summary
Pennsylvania Mountains Healthcare Resource Development

Pennsylvania Mountains Healthcare Resource Development is the lead entity for the project. The site visit consisted of documentation review, rural hospital visits, and Data Center tour. Over 10 professionals including the Project Coordinator, Assistant Project Coordinator, CIOs, IT managers and physicians were interviewed.

Rural health care providers (HCPs) participating in this site visit were Lewiston Hospital, Clarion Hospital and Punxsutawney Hospital.

Pennsylvania Mountains Healthcare Resource Development provides a broadband network covering 19 hospitals of central and northeastern Pennsylvania. Bandwidth speeds vary from 10 MB to 100 MB depending on the needs of the HCP. Microwave and fiber are the transmission media for the project.

General Observations

Medical professionals and others we visited were enthusiastic about the Pilot Program as the new infrastructure and bandwidth provided allowed staff to better serve patients.

Demonstrated Uses of the Network

Tele-pathology, tele-radiology and tele-pharmacy are in use at hospitals in the network. At Punxsutawney Hospital tele-radiology has reduced the turnaround time on x-ray readings from 20 to 7 minutes. This has allowed for more timely clinical interventions where needed. All of the hospitals will be connecting to a local area and/or statewide Health Information Exchange. Electronic medical records are in use in the network. The network has enabled the development of a revenue cycle management program that has the potential to increase an HCP's bottom line by 2-3%, as well as reduce operating costs.

Clarion Hospital has seven satellite clinics and transmits clinical and financial information over the network, which they were not able to do before connecting to the network. In addition, the hospital has been able to set its transcriptionist up to work from home. This has reduced transcription turnaround time from an average of 2.5 days to virtually no waiting time at all. It has also cut the employee turnover rate from 50% to 0%. The cost of turnover in hospitals runs about $20,000 per full time employee. Therefore, the broadband enabled work at home solution is a cost avoidance benefit for the HCP.

Lewistown Hospital has been able to eliminate the manual creation and delivery of mammography DVDs from outlying sites back to the hospital. What took an inordinate amount of time before now takes 2-3 minutes and has enhanced clinical care. In addition, the hospital will be starting a tele-burn service in the near future.